

ALABAMA'S

# TREASURED

FORESTS

SPRING 2002

- FIA SURVEY: ONE MILLION NEW ACRES
- THE RIPARIAN FOREST *(PART 2 OF 2)*
- LOGGING PHOTOS FROM THE PAST
- PREVENTING TIMBER THEFT
- SPRINGTIME WILDLIFE "WEEDS"
- MULCHING MACHINES
- 2002 LANDOWNER CONFERENCE



**DON SIEGELMAN**  
Governor, State of Alabama



**TIMOTHY C. BOYCE**  
State Forester

**T**he Alabama Forestry Commission and the Southern Research Station of the United States Department of Agriculture Forest Service recently completed a Forest Inventory Analysis (FIA) study of our state's forest resource. Some of the results were astounding.

For instance:

- Alabama has 22.9 million acres of forestland - up one million acres from the 1990 survey.
- 71% of Alabama is forested.
- Over three-quarters (78%) of Alabama's forestland is owned by private non-industrial landowners.
- There are 4,000 trees for every man, woman, and child in the state.
- 64% of the state's forests are hardwood or a hardwood/pine mix.

Alabama has the second largest commercial forest in the nation, with Georgia being the leader. This resource supports our state's largest manufacturing industry - forest products. Across the state the forest industry directly and indirectly employs 170,000 workers with a payroll of \$2.2 billion.

Our state's forest resource also attracts many tourists and visitors each year through recreational opportunities like hunting and fishing, boating, and camping.

This healthy resource was no accident. It is through the hard work and planning of many natural resource agencies and groups as well as private forest landowners that make Alabama's forest resource a state TREASURE.

**I**f you look back in time, rarely has there been a crisis or disaster around the world in which Alabamians did not answer the cry for help. Either by the giving of resources or of themselves, Alabama citizens possess the true sense of caring. When disasters have hit our own state such as Hurricanes Frederick and Opal, the deadly tornadoes in Madison and Jefferson counties, or the disastrous flood at Elba, our citizens have always been there to provide aid and support to their fellow Alabamians.

Across America, they have been on the front lines fighting fires, stacking sand bags, manning soup kitchens, cleaning up, tearing down, and rebuilding; lending medical aid and giving their blood as well as their moral support in every crisis imaginable. And from South America, to Africa, to Europe, and the Middle East, there will rarely be a disaster in which one or more Alabamians do not rise to whatever unfortunate occasion and volunteer to give unselfishly to those in need.

In the military history of our nation, Alabama has joined her sister southern states in providing more soldiers than any other area of the nation. Currently hundreds of brave men and women from Alabama are overseas protecting the precious rights that we value so much.

Alabama is blessed with some of the most abundant natural resources in the world, but by far our most valuable resource is not found in the fertile soil, vast forestland, or rushing cool waters. Our most valuable resource is hidden in the hearts of our people.

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- USDA-Forest Service, National Forests in Alabama
- USDA-Forest Service, Southern Region, State and Private Forestry
- USDA-Natural Resources Conservation Service

The Alabama Forestry Commission supports the Alabama Forestry Planning Committee's TREASURE Forest program. This magazine is intended to further encourage participation in and acceptance of this program by landowners in the state. Any of the agencies listed above may be contacted for further information about the TREASURE Forest program.

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Elishia Johnson

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**COVER:** The lazy flowing current of Hillabee Creek provides an excellent example of a *riparian forest*, Alabama-style, located on the TREASURE Forest of Danny and Millie Baker in Tallapoosa County. Read more about riparian forests on pages 26-29. *Photo by Elishia Johnson.*

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# For the Love of the Land

by Elishia Johnson, Editor

The year was 1953, and Rebecca Langford had hoped for a new car on her birthday. When she received two tires and a piece of land instead, she wasn't real happy. Looking back now, she laughs about it and says that was just the beginning.

When Dr. John Langford and his bride acquired that first parcel of land, they never dreamed just how the acreage would increase. Today they own property in Crenshaw, Covington, and Pike counties in Alabama as well as in Florida. Timber covers 80% of their land with more than 2000 acres planted in loblolly pines, 325 acres in longleaf pines, over 1000 acres in naturally-regenerated pines, and 400-500 acres in hardwood.

It must have seemed the perfect match. Both Dr. and Mrs. Langford appreciated nature, enjoying the woods, wildlife, and wild flowers. She said, "He loved the land . . . I had always loved trees and I loved my husband." However, Miss Rebecca states that the time finally arrived several years ago when she was actually ready for him to stop buying property. Dr. Langford sheepishly admits, "Every time I had an extra two dollars, I bought land." The last purchase was 52 acres, just two years ago.

Upon retiring from his 42-year practice as a successful veterinarian in Daytona Beach and her career from teaching school, the couple moved back to their native Alabama in 1992. After years of living in the city, they both knew it would be "nice to live in the country."

Growing up on a 120-acre farm, it was definitely a love of the land that prompted Dr. Langford to buy land at every opportunity. He was also influenced by his older brothers who were all interested in land development. "They provided good role models for me . . . especially my brother Jordan who advised me that forestland would be a good investment. He was right!"

Another influence on Dr. Langford's intensive forest management theory was a book which he says "profoundly affected" him. When he was 14 years old, Dr. Langford read *Our Wasted Land*. Explaining that environmentalism was a new concept at the time, "It described how we had abused the land, particularly in the South, with erosion and gullies. It encouraged 'maximum production' while at the same time stimulating my interest in land conservation. This book taught me not to waste. It helped formulate my philosophy that the best environmental-

ists are landowners. We have an investment in the land."

Miss Rebecca echoed this belief, "I hate to see land just lie vacant and erode. It's a great shame not to use what you have."

First learning about the TREASURE Forest program through a neighbor, Dr. and Mrs. Langford themselves became certified as TREASURE Forest landowners in 1999. He recalled how honored they felt to be accepted into an organization with such high standards. They set goals to not only meet, but even surpass those standards. Then in 2001, the Langfords achieved the supreme prize of excellence with the Helene Mosley Award.

The primary objective of the Langfords' land management strategy is to grow timber. Their secondary objectives include wildlife, clean water, and aesthetics. This plan incorporates practices such as harvesting, reforestation, prescribed burns, spraying to prevent competition among young trees, plowing fire lanes, as well as keeping roads mowed and borders trimmed.

Although the Langfords don't hunt their land, they both love animals and enjoy watching wildlife. Several schemes are employed to ensure an

abundant variety. They plant food plots twice yearly such as wheat, rye, oats, clover, bahiagrass, and lespedeza in the fall; sunflower, corn, and sorghum in the spring. When harvesting timber, they save big oaks which supply acorns for the deer and turkey. They are also careful to leave briars and brush piles which provide cover for small animals and allow escape from predators. They are presently attempting to encourage a quail population.

Following his retirement Dr. Langford attended a herbicide conference and it really sparked his interest. He had graduated from Auburn University School of Veterinary Medicine in 1951. Now, all these years later he decided to become a student again! He attended Forestry School at Lurleen B. Wallace (LBW) Community College in Andalusia. These courses opened his eyes to all the possibilities if he did a better job of planting, harvesting, and making roads. In addition to learning practical skills such as burning every three years, he also gained insight into improving the land aesthetically and attaining the maximum amount of wildlife on the property.

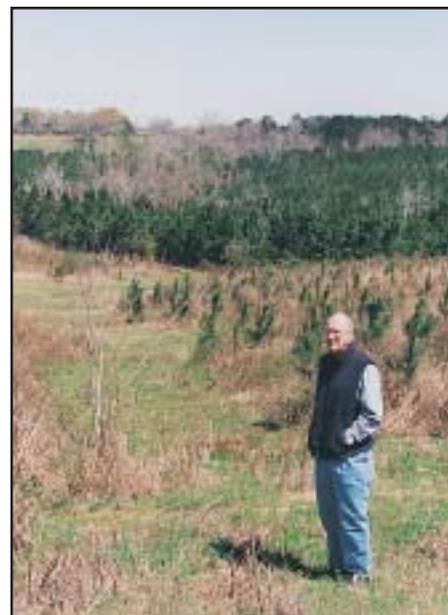
Dr. Langford's advice to all potential landowners is this: "Before you start, get all the information you can; attain all the knowledge possible because you will need it! People should also take advantage of the assistance available from the Alabama Forestry Commission, the Farm Service Agency, and the Natural Resources Conservation Service. These folks are most gracious to help, they have all bent over backwards for us."



*Dr. John and Rebecca Langford retired to their Alabama home in 1992.*

According to Dr. Langford, his greatest challenges have been presented by gullies and Kudzu! One of his most gratifying achievements has been reclaiming the century-old gullies. This practice, he assuredly states, "makes the surrounding land more valuable." Over the years they have not only reclaimed 50 acres of gullies and eradicated 50 acres of kudzu, but they have also improved or built 17 miles of road. Dr. Langford noted that after timber is cut, roads typically need repair and stabilization.

In addition to personally planting all of the trees and the other tree farming duties, the couple stays "pretty busy," as Mrs. Langford put it. That appears to be an understatement when you consider all the organizations they are involved with:



*What was once a useless gully is now a fertile valley of pines.*



*Alabama Forestry Commission Covington County Manager Michael Older and Dr. Langford often walk the property and share tree farming information.*

Tree Farmers of America, Alabama Landowners' Association, the Longleaf Alliance, as well as three different chapters of the TREASURE Forest Association (Covington, Crenshaw, and Pike counties)! He's also active in Gideons International, his veterinary association, and the local volunteer fire department. They both teach Sunday School and he's also a deacon.

Michael Older of the Alabama Forestry Commission proudly refers to the Langfords as "the poster family" of stewardship. When asked why they both continued to work so hard rather than sitting

*(Continued on page 6)*



*Dr. Langford surveys the success of a recent prescribed burn in a stand of loblolly pines.*

back and enjoying retirement, Dr. Langford stressed that one must “use his time wisely.” Both he and Mrs. Langford inherited a strong work ethic from their parents and grandparents. Dr. Langford said that he simply follows the Biblical example of working six days and resting on the seventh day. He feels that people who work hard get along better in life. On this point, Miss Rebecca chuckled that she and her husband didn’t necessarily share that same philosophy . . . she would

be quite happy to have a bit more leisure time than just the one day each week! But even with her good-natured teasing, it’s obvious how proud Miss Rebecca is of her husband. “He’s a very dedicated man: an outstanding veterinarian and an outstanding forester.”

The Langfords hope their two sons and four grandchildren will carry on the TREASURE Forest tradition. “Our oldest son hunts, fishes, and loves the woods. Our youngest son only shoots with a camera, but they both seem to have the same philosophy of the land.”

One of their favorite aspects of owning a TREASURE Forest is sharing their land with others through various outreach programs. They have hosted several workshops for forestry students from LBW Community College and tours for the Covington and Crenshaw County TREASURE Forest Associations. With her background in education, Miss Rebecca particularly enjoys the opportunity to share with children and looks forward to the elementary school field trips each year. She says it is so rewarding to see their faces as they personally experience nature, often for the first time in their lives.



*Mike Older and Dr. Langford inspect a young planted pine.*

Dr. Langford’s unofficial motto would have to be: “Always strive for excellence.” All one must do is look around and see the obvious rewards of the Langfords’ hard work. The trees speak for themselves, ranging in age anywhere from nearly 50 years to 3 or 4 months old. He has planted trees every year since 1953! He admits, his greatest joy is watching trees grow. When asked if he knew exactly what his success rate was, he stated that he’s had 80% survival with long leaf pines and 90-95% with loblolly. According to Dr. Langford, “There is such satisfaction in planting seedlings in the ground; watching them progress for a few years; then thinning them.”

The Langfords’ latest project is to enhance the forest with dogwoods, red buds, and wild azaleas. The major



*The Langfords and Sheba.*

improvements having been accomplished, they can now concentrate on aesthetics and beautification of the land. It is important that the property be pretty . . . Miss Rebecca is an artist and Dr. Langford says the land inspires her to paint pretty pictures.

As for the future, Dr. Langford says they’ll keep doing what they’ve been doing. “And there’s always more kudzu to kill!” ♣

# Work Hard, Work Smart, Work Safely

By *Tilda Mims*

Education Specialist, Alabama Forestry Commission, Northwest Region

**A**re you planning to work on your farm this weekend? If so, it doesn't matter if you travel across the pasture or across the state, you should be prepared to stay in touch, stay comfortable and stay safe.

**COMMUNICATION** Tell family or friends where you are going and stick with your plan so that someone will know where you are and when to expect you home. Keep a walkie-talkie or cellular phone with you at all times.

**HYDRATION** Drink plenty of fluid. **WATER!** If your body is one to two quarts low – an amount you can easily sweat out in only one hour of exercise – you will reduce your performance as much as 25%. Experts recommend drinking about 1/4 quart of water every 15-20 minutes, instead of chugging the quart at one sitting.

**CLOTHING** Choose comfortable, sturdy clothes that will protect you from the elements.

- Make sure your socks fit. Baggy socks encourage blisters and tight socks reduce healthy circulation.
- Make sure you wear boots that are in good shape and provide good support.
- Always wear blaze orange clothing during fall and winter.
- When riding an ATV, wear boots, helmet, gloves and eye protection.
- Dress in light-colored clothing to spot ticks more easily. Wear long-sleeved shirts and long pants with cuffs for maximum protection. Tuck your shirt into your pants and your pants into your boots.

**FOOD** Frequent munching is more important than big meals. A snack every two hours, especially a high carbohydrate snack, keeps your muscle glycogen high. Glycogen is converted into sugar in order to fuel muscular work and to liberate heat for inner body warmth on a cold day.

**SUNSCREEN** Skin cancer is by far the most common cancer in the U.S. To protect yourself, apply sunscreen to all exposed areas, including your ears and

behind your ears where skin problems may develop in later years. Sunscreens work best if applied on warm, dry skin and allowed to soak in for 15-30 minutes prior to sun exposure. A sunscreen of SPF 15 will do the job for most skin types, but many dermatologists recommend SPF 30 for safer protection. A baseball cap will not provide the protection you need. Consider a wide-brimmed hat with a brim at least 4" wide all the way around the hat. A floppy brim breaks up scattered UV rays better than a rigid rim.

**SUNGLASSES** Make sure your sunglasses protect against ultraviolet light. If they don't, you may run the short-term risk of sunburned eyes and the long-term risk of cataracts.

**FIRST AID KIT** Buy a commercially prepared outdoor medical kit and check it regularly for expired, damaged or missing items. Keep a small supply of pain relievers for headaches and other minor aches. Be certain that your kit includes directions on how to properly clean and bandage all wounds, how to secure fractures with a splint, how to treat sprains, and how to remove splinters.

**INSECT REPELLENT** Use insect repellent safely and regularly. Mosquitoes and other biting insects are more than a minor annoyance. According to the Centers for Disease Control,

mosquitoes, ticks, biting flies, fleas, gnats, etc., are growing into major public health problems. Use an EPA-registered insect repellent that contains DEET.

**POISONOUS PLANTS** About two-thirds of the U.S. population is sensitive to poison ivy, poison oak and poison sumac. The allergic reaction can begin in as little as 10 minutes after exposure and subsequent blisters and itching can last up to ten days. The best approach is recognition and avoidance. There are non-prescription, pre-exposure lotions on the market that are applied like sunscreen to all exposed skin. Research has proven them to guard against allergic reaction for several hours.

**HIKING STAFF** Using a hiking staff – a "third leg" – will often prevent injuries and maintain balance.

**STAY IN SHAPE** Be in sufficient physical shape to take all the punishments of a hard day's work. Be prepared to walk out in case of a vehicle breakdown.

**TICK REMOVAL** Do a tick check twice daily during tick season especially around the scalp, nape of neck, behind the ears and knees, and under the armpits. Immediately remove all ticks. Remove attached ticks with fine tweezers by gently, repeatedly, and patiently tugging at the point where their mouth-

*(Continued on page 18)*



# The Status and Condition of Alabama's Forests:

## ONE MILLION New Acres

by *Andrew J. Hartsell*  
Research Forester, U.S.D.A. Forest Service

**T**he latest survey of Alabama's forest resources is complete!! This phrase is being uttered with excitement by a diverse group of forestry related organizations. Forest industry, environmental groups, and state agencies all use survey data in formulating their long-term strategies. So, what is the "survey" and what are the latest results. The purpose of this article is to answer these questions.

### History of the Survey

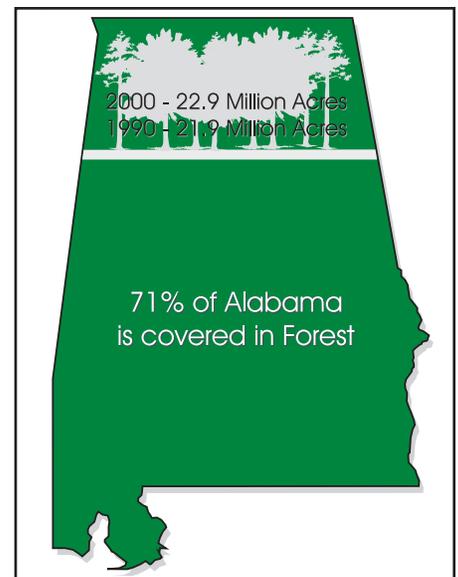
The Forest Inventory and Analysis (FIA) unit of the U.S. Department of

Agriculture, Forest Service, Southern Research Station (SRS) conducts continuing inventories of 13 southern states. The first survey of Alabama was completed in 1936. The initial survey consisted of quarter acre sample plots laid out county by county on parallel lines spaced 10 miles apart. The second survey (1953) established a network of permanent ground plots located on a three-mile grid across the state. All subsequent surveys used this plot grid. Subsequent surveys were performed in 1963, 1972, 1982, 1990, and finally in 2000.

The latest survey involved 4,443 plots with forested condition and took three years to complete.

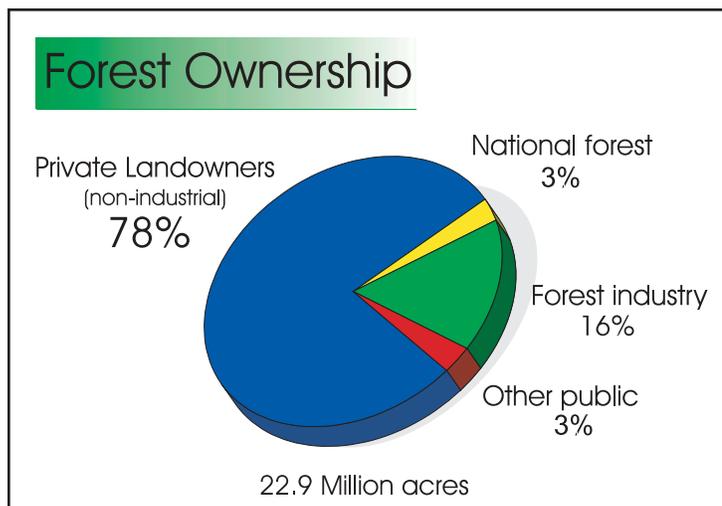
Thus, seven surveys have been conducted in Alabama. Along the way, different sample designs and techniques have been used. Every change was made in order to increase the efficiency of the sur-

vey, utilize latest technologies, or answer new questions. However, there are several key items that have remained unchanged since 1953. The network of plot locations and the methods of determining forest area have remained constant for 50 years.

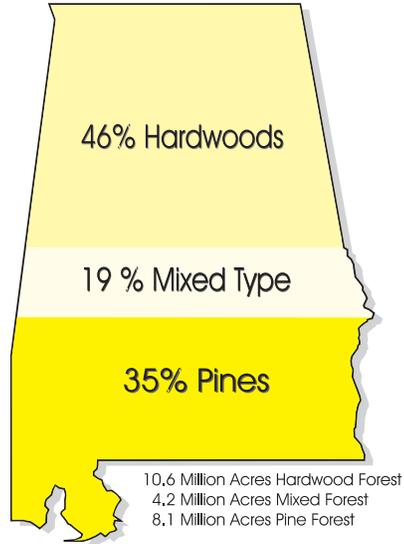


### Results of the 2000 Survey

There are currently 22.9 million acres of forests in Alabama. This represents a *one million acre increase* over the 1990 estimate. This increase



## Alabama's Major Forest Types



resulted from 1.7 million acres of previously non-forest land being converted to forests, and 703,000 acres of timberland being diverted to other land uses. The major cause of deforestation in Alabama is derived from urban-related issues.

Urbanization is responsible for 68% of the forestland clearing in the state. The establishment of plantations was a primary factor for the increase in forestland. The Conservation Reserve Program (CRP) alone was responsible for planting around 200,000 acres a year during the 1990's. Many of these plantings were on lands that were previously in crops or pasture. Today, 71% of the state is in forests (see Figure 2).

Private landowners (non-industrial) own 78% of Alabama's forests (see Figure 1). Forest industry owns 16%. The remaining 6% is shared between National Forests and other public lands. The majority of the state's forests, 46%, are classified as hardwood stands (see Figure 3). Softwood stands account for 35% of the forest area. The remaining forests are classified as mixed. Many individuals will find this information surprising. It is often stated that softwoods,

pine plantations in particular, are the dominant forest-types in the state. The latest survey proves this to be an incorrect assumption.

Total forest area has gradually

The impact of plantation forestry is seen in these statistics as well. The area of planted stands has increased 225% since 1972, when planted stands accounted for 1.7 million acres. Today, planted stands occupy 5.6 million acres, almost one-fourth of the total forest area of the state. It is important to note that while plantations occupy nearly one-quarter of the state's forestlands, they contain 35% of the states standing softwood inventory. Plantations also are responsible for half of all softwood growing-stock growth and 30% of all softwood removals.

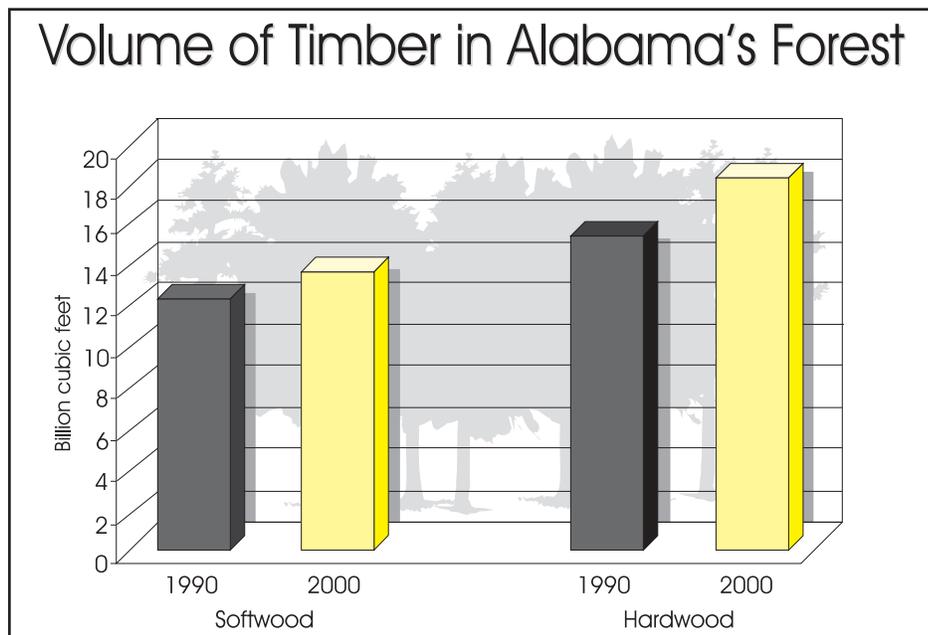
The standing inventory of both softwoods and hardwoods has increased as well (Figure 4). All live softwood volume has risen 21% over the four-survey

Since 1982, average annual growth of softwoods has risen. A decline in softwood growth occurred between 1972 and 1982. Removals of live softwoods have increased as well, increasing 107% since 1972. Softwood removals exceeded growth during both the 1982 and 1990 surveys, a fact that caused some concern in the past. This trend is reversed for the latest survey, as once again, growth exceeds removals.

Average annual growth of live hardwoods has always exceeded removals. Removals of live hardwoods have increased 83% since 1972. Currently, 390.6 million cubic feet of hardwoods are removed each year in Alabama. This is offset by the fact that 560.8 million cubic feet are grown each year, a 75% increase over the 1972 estimates.

## The Future of the Survey

Historically, surveys were performed on an 8-12 year cycle. Any event or questions that arose between surveys could not be addressed until the next survey. To help provide a continuous data source, FIA and the AFC have teamed together to perform an annual inventory system. With this system, state crews will gather data on 20% of the FIA plots each year. In five years, a complete survey will have been performed. At this time, the



period, while live hardwood volume has gone up 69% over the same time frame. In 1972, the volume of softwoods exceeded that of hardwoods. Since then, the inventory volume of hardwoods has always exceeded the softwood inventory.

Average annual growth and average annual removals refer to the amount of wood that is grown or cut each year. Between 1990 and 2000, 923.4 million cubic feet of live softwood volume grew each year. This is a 20% increase over the 1982 value.

state will continue gathering data on 20% of the plots, creating a "rolling average." This will enable decision makers, both public and private, to have current information on the state's forest resources, ensuring that Alabama will always have forests for future generations.

For more information on the annual inventory system, or the latest survey of Alabama, visit the national FIA website at: <http://fia.fs.fed.us>



## A Simple Retreat

By *Michelle Hayes-Cole*

Outreach Forester, Alabama Forestry Commission, Southeast Region

Many things may be envisioned when you say TREASURE Forest, but for the Haygood family of Macon County, a simple retreat comes to mind. When they purchased the 175-acre tract in 1977, the place was an old cattle farm about to be developed into a subdivision. There were open fields, plenty of planted pines, and an abundance of bottomland hardwoods. The Haygoods didn't know exactly what to do with the land when they became the new owners, but within the next two years they took what God had blessed them with putting all their time and effort into the property to make it their special place.

During the first years, Tony Haygood and his family tried to farm the land by selling peas and watermelons to individuals and stores. He had begun to realize that truck farming wasn't working when he was invited to a Forestry Planning Committee meeting. As Tony recalls, this is where it all began. He started asking questions about the different aspects of forestry; the next thing he knew he had a lot of agency people on his place wanting to help him get started.

### A New Beginning

With the help of the Alabama Forestry Commission, the Haygoods began the process of transforming the farm into a prized possession. They began to plant the open fields with pines, but soon southern pine beetle got into the established planted pine. The infestation was out of control and it would have been too expensive to take out the infested trees only, so the

Haygoods decided to clear-cut the whole area and start over. Starting over was a concept of which they were all too familiar.

Becoming impatient with waiting to hear back from the cost share programs, the Haygoods decided to take matters into their own hands. They took the money



*Tony Haygood inspecting his young longleaf pines.*

that they received from the harvest, site prepared it, and replanted it with loblolly pine. They also used the money to install a creek crossing. Things finally began to look up for the Haygoods.

### Family Ties

Family time and good stewardship are both important to the Haygoods. It is their intent to pass these values on to their children and extended family. The whole family is involved in the property management and as a result, family ties are stronger than ever. Although they don't lease the property for hunting, the Haygoods allow family and friends to hunt. Tony often has to compromise with his mom and his uncle to work out hunting schedules! These family members

have taken on the responsibilities of planting and maintaining food plots as well as building and putting up tree stands. The tree stands are not only used for hunting, but the kids also use them for tree houses.

Fishing is also a big deal for Tony and his son, who he said always catches more fish than anyone else. In fact, what was

once a small water hole is now being expanded for more fishing. Many of the community kids are often invited to the property for fun-filled events such as camping and fishing.

According to Tony, his favorite aspect of owning a TREASURE Forest is the recreation. However, he also stated that when maintaining a TREASURE Forest, your work is never done; you always want more. His future plans include a pavilion, nature and bike trails, and more community involvement.

### Diversity

Tony believes that diversity is what makes his property a TREASURE. Comprised of a mixture of 60% pines and 40% hardwoods, ponds, food plots, and a variety of wildlife, the Indian mounds and overall history of the place also lend to its diversity.

In February the Haygoods showcased their management practices to fellow forest landowners and potential tree farmers at the 110th Annual Farmers' Conference in Tuskegee, Alabama. Another tour of their TREASURE Forest was conducted by the Alabama Forestry Commission along with the Federation of Southern Cooperatives and Tuskegee University.

*(Continued on page 18)*



Photo courtesy of the Winston County Historical Society

Milford Curtis and crew logging on the Winston/Walker county line in the 1930s.

# Loads of Logging History

By *Tilda Mims*

Education Specialist, Alabama Forestry Commission, Northwest Region

**V**ast stands of old-growth forests in North America were an unprecedented resource to the first settlers from Europe, Africa and Asia, where many of the forests had been cut for centuries. American pioneers cleared forests for crop land, pastures and settlements. As early as 1607, settlers began exporting lumber to England, and lumber exports exceeded domestic demand for much of the Colonial Period.

However, the heaviness of timber and dependence on brute strength and animals for harvesting prevented large-scale

lumbering until the mechanical advances of the Industrial Revolution. In the early 1800s, logging was still a laborious, slow and dangerous profession. Crosscut saws and axes felled trees while oxen, mules and donkeys dragged them out of the woods. Logs were floated or driven downriver to sawmills or loaded onto a wagon or rail car.

Steam powered equipment replaced animal power as man searched for ways to make logging a little easier. Steam “donkeys” pulled logs off mountains and steam locomotives hauled them to mills. Meanwhile, steam engines freed

sawmills from their dependence on flowing water, and allowed them to operate year-round.

Lumber demand soared in the United States in the 19th century as railroads expanded into the Northeast and the West. During this time, loggers lived in camps throughout the year. They labored all day, endured extreme weather and worked under life-threatening conditions. The harshness of the occupation and the hardiness of the men were captured in American folklore with legendary characters such as Paul Bunion and his giant blue ox, Babe. *(Continued on page 12)*

# Loads of Logging History

(continued from page 11)

The economic boom following World War II fueled lumber demand, especially for suburban homes. In the mid-1950's, the big push in harvesting was finding new and easier ways to load wood. There were all sorts of ideas, most of which involved booms, cables, clamps, winches, overhead hoists and tractors or trucks - anything to help the logger load wood or help the mill unload wood.

The big breakthrough in loading was the introduction of hydraulics, and ultimately the knuckleboom loader. Leo Heikkinen of Wisconsin produced the true forerunner to the modern knuckleboom in

1956. It gave loggers speed and sorting possibilities never dreamed of before and paved the way for more landing advancements, particularly delimiters. Designed primarily for handling pulpwood, it turned out to be the finest log loader in the country and had a price tag in the neighborhood of \$3,000.

Although logging equipment and logging practices have changed significantly in the past 100 years, our fascination with the hardiness of the men and women who made their living in the logging woods prevails.

The accompanying period photos capture moments in Alabama's rich forest history. 📷

## Sources:

- Timber Harvesting Magazine, May 1995
- Encarta Online Deluxe, 2001
- Roots of Motive Power Museum
- Sierra Logging Museum

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*Editor's Note: More historical photos will follow in upcoming issues of **Alabama's TREASURED Forests**.*



Shown here in the early 1940s: Elijah Lee (seated center with saw blade), grandfather of retired AFC Limestone County Manager Larry Lee; Henry Hubert Lee (bottom left corner) Larry's father; Ersie Lee (standing in the rear) and Elbert Lee (seated behind Elijah), Larry's uncles.



Photo courtesy of Images of America: Lamar County by Barbara Woolbright Carruth, Arcadia Publishing, May 2001.

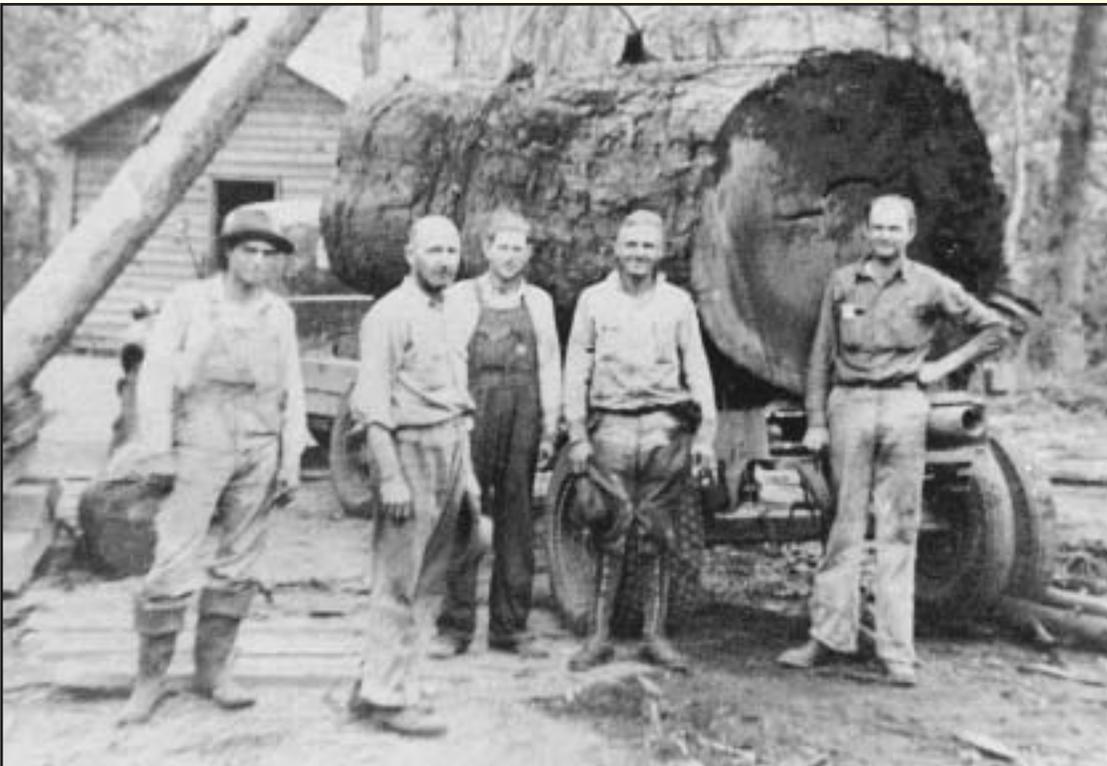
Redden Thompson's sawmill located behind Oak Hill Church in Lamar County, early 1900s.

Jack Woolbright of Lamar County in 1924. At age 18, he had already been logging six years with his mule team and wagon. The log on the wagon is over five feet in diameter and 12 feet long.



Photo courtesy of Images of America: Lamar County by Barbara Woolbright Carruth, Arcadia Publishing, May 2001.

Photo courtesy of Images of America: Lamar County by Barbara Woolbright Carruth, Arcadia Publishing, May 2001.



Clyde King (second from left) and his brother Claude (second from right) of King Brothers Logging pose with a cypress in the Buttahatchee River bottom near Sulligent in the early 1940s. They had to weld two 6 1/2-foot crosscut saws together to fell the tree.

# Preventing Timber Theft

By *Kenneth Elmore*

Forest Investigator, Alabama Forestry Commission, Northwest Region

**A** working class North Alabama couple owned a home with a mortgage, and twenty acres of land. Their handicapped child suffered from many health problems, and medical bills for treatment and special equipment were staggering. Physical therapy sessions for the child were needed, but wouldn't be covered by their insurance.

An acquaintance dropped by one day and offered what appeared to be a quick answer to their financial worries – a timber sale. Their 20-acres of land included about 5-acres of nice yellow poplar, red oak and white oak surrounding a small pond. The wife's father had refused to cut the trees more than 30 years earlier and they had not been cut since she inherited the land. The buyer said the trees would make quality grade veneer logs and saw logs, and he'd get a very good price for them. He offered them one-half of what each load brought at the mill.

They quickly agreed to the deal. He cut the five acres, loaded up his equipment and left. He only paid a little money for the first two loads and did not respond to repeated attempts to contact him. The couple had no written contract.



*Installing a culvert allows access to the property while preserving water quality.*



*Clearly marking streamside management zones helps logging crews avoid sensitive areas. Fayette County TREASURE Forest landowner Joe Smith (left) and professional logging manager Ray Clark (right) watch as Mark Milligan of the Alabama Forestry Commission (center) designates an area.*

They had no record of how many loads left the property or where the loads were taken, nor were they provided with mill scale tickets.

The couple was devastated. He seemed like a nice man and they trusted him to treat them fairly. The simple timber sale they counted on to help them financially became a source of frustration and bewilderment. It took only about a week to harvest trees the family had protected for many years. Now the trees were gone and the young family had nothing to show for it.

The case appeared to be a matter for civil court, but first the couple turned to the Alabama Forestry Commission (AFC) for help. The Commission's investigators knew this man's history of similar behavior. When contacted, the buyer's wife said the money had been spent on bills and they couldn't presently pay the landowner. The AFC was unable to locate the wood at nearby mills and wood yards, so a stump cruise was performed to determine what wood was taken and how much it was worth.

The grand jury indicted the man based on his history of similar complaints. The case was settled before going to court with the man pleading

guilty and paying full restitution to the landowners based on the stump cruise data.

Unfortunately, this type story is not unusual. Timber theft occurs in a variety of ways and no one is immune. It happens to large forest industry companies as well as private landowners. It happens with well-written and supervised contracts as well as verbal agreements. It has been my experience, however, that far more complaints result from verbal agreements and small non-industrial private landowners get hurt most often.

## PRECAUTIONS

You can minimize your risk of timber theft by taking the following precautions.

- Know timber's worth.** Think of your standing timber as a bank account. Anyone taking money from your account through outright theft, theft through deception, or fraudulent business practices is stealing money. A timber sale contract is a business deal. Keep it business. The old adage applies: "Trust, but verify."
- Know your property.** There is no foolproof plan to prevent timber theft. However, prevention starts with know-

ing the location of your property, having clearly-defined property lines, limiting access to the property, having good neighbors, and being a good neighbor. If you are an absentee landowner, having good neighbors or friends to check your property and report any suspicious activity is critical.

•**Hire a reputable professional consultant forester** to protect your interests when dealing with timber buyers, procurement foresters, and producers. They charge a fee for their work but earn it by getting you top dollar and by giving you peace of mind.

•**Check references of your consultant forester.** Ask previous clients if they were satisfied with the work or if there were problems with the sale. Ask if there were any contract violations and, if so, how they were resolved.

•**Understand conditions of sale.** You will make the final decision on how your timber is sold, so be certain you know the advantages and disadvantages of two basic types of timber sales: Lump Sum and Pay-As-Cut.

In a *lump sum sale*, the landowner receives one large payment before the timber is harvested. Since competitive bidding usually ensures fair *stumpage* value, this method is often in the landowner's best interest. It's important to get as many bids as possible. With a good timber sale contract to protect your property and other interests, any theft problems become the buyer's.

In a *pay-as-cut sale*, the landowner receives a set sum of money for each unit of pulpwood and/or sawtimber as the timber is harvested and delivered. This option may bring a better price if loggers merchandise different products and take advantage of spot markets. However, it is also the method where law enforcement receives the most complaints from landowners unhappy with the final compensation, believing they did not get paid for everything.

If you select the pay-as-cut method, be careful. There is a lot of potential for abuse. Some examples include but are not limited to:

\* *Poor utilization* - The tract is high-graded (taking only the best), costing

the landowner money and making it difficult to get another contractor to come in and finish the job. This can make reforestation more costly.

\* *Poor merchandising* - You are paid pulpwood prices for sawtimber.

\* *Diverted wood* - The wood producer sells it as his own. Unless you are there every day, how do you know what timber was removed from your property and where it was taken? Wood is a commodity: once it leaves your land, it looks the same as any other load of wood.

\* *Co-mingling of wood* - The producer or buyer cuts more than one tract of timber, paying you for the lower grade wood from another tract and pocketing the difference.

• **Establish a paper trail.** Make certain that each load of wood removed from your property is accounted for. Alabama laws are minimal that require the recording of information at the first place of weight and off-loading. Mill records require the date of delivery, weight or volume, product, seller/producer name, landowner name, and the county from which the forest products were severed.

• **Demand copies of mill scale tickets.** Check tickets for accuracy of basic information. Be absolutely certain that your name as landowner (first and last name) is on all scale tickets.

• **Record dates of activities.** Record dates of when the producer moved onto your property, when the first load

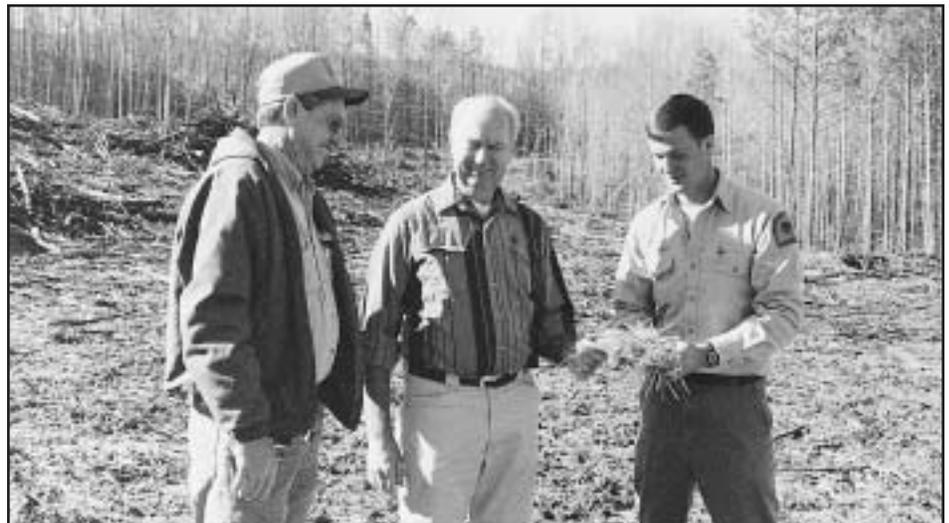
was severed and removed, and when the last load was removed. If the producer moves off your property before finishing the job and then moves back to finish the job later, record these dates.

• **Identify and record any trucking companies.** Know the identity of all trucking companies the producer may use, getting the drivers' names whenever possible.

• **Be alert to suspicious behavior.** There are unscrupulous individuals in all professions. The following "red flags" will alert you to possible problems.

- Loggers operating where they should not be.
- Truckers hauling when they should not be.
- Loggers or trucking contractors delivering to unauthorized markets.
- Multiple trucking contractors on a site.
- Loggers segregating products not mentioned in the contract.
- Logs hidden in the woods.
- Logs mixed with pulpwood.
- Boundary trees cut or boundary lines moved.
- Harvesting in streamside management zones in violation of contract.
- Logger working an adjacent timber tract.
- Trucking contractor hauling from adjacent tracts.

(Continued on page 18)



The timber contract for this large harvest was designed with reforestation in mind. Getting your forestland back into production is easier and more affordable when the timber sale contract spells out important details for cleanup. This contract required this loading deck to be seeded and hayed to control erosion.

Alabama's TREASURED Forests / 15



# Springtime Wildlife “Weeds”

By *Dr. M. Keith Causey*  
Ireland Professor of Wildlife Science, Auburn University

*Reprinted with permission of the Alabama Wildlife Federation*

Generally speaking, a “weed” is a plant growing somewhere we humans do not want them to be. In natural or undeveloped environments, many “weeds” are important to wildlife. My work focuses on white-tailed deer and forbs, which is the proper term for most weeds and are very important in a deer’s annual diet. Forbs are very important to many other wildlife species as well; not only as food, but as attractants for large numbers of insects which are so critical to the early survival of bobwhite chicks and turkey poults.

Forbs are non-woody or herbaceous flowering plants, excluding grasses, sedges and rushes. Forbs include some of our most beautiful and delicate wildflowers and some of our most noxious, allergenic weeds, both annual and perennial. But for many wild animals, they are just food and cover.

As wildlife food for herbivores such as white-tailed deer, forbs are excellent. Many forbs break dormancy or germinate in late winter or early spring, providing nourishment when needed most. The young and tender shoots, stems, and

leaves of many forbs are among the most nutritious and digestible foods available. These “weeds” often contain up to 40% crude protein and greater than 70% total digestible energy. Many of these high-quality plants have short lives, and their excellent nutrient content and digestibility period may only be a few days or weeks in length. However, they are replaced or followed often by other species that are just as beneficial from late winter to late spring and beyond.

There are literally hundreds of forb species, and only a small number are not

used in some way. In a study we conducted years ago in the Piedmont physiographic region of Alabama relating to white-tailed deer food use and preference, there were 36 forb species that occurred in 10% or more of the deer stomachs analyzed during the spring season of that year. They included such “weeds” as corn salad, curly dock, dandelion, Carolina cranesbill, hop clover, daisy fleabane, vetch, wild garlic, primrose, ragweed, and goldenrod. Of course, there were many more. While deer are referred to often as browsers of woody buds, leaves, and stems, forbs are critical components of their year-round diet. In the south Texas brush country that is so famous for high-quality white-tailed deer, spring forb abundance, which is influenced by spring rainfall, often determines the degree of antler growth for any given year.

In Alabama and throughout the Southeast, many forbs grow in open areas associated with disturbed soil such as fallow or unplanted fields, pastures, road sides, ditch banks, new clear-cuts, and spoil area. Of course, other forb species grow in moist forests with closed canopies and other undisturbed habitats.

In old, southern agricultural systems, some row-crop fields were “rested” each year. These “rested” or fallow fields flourished with forbs in the spring. These “weed” fields were critical habitat for bobwhite chicks that fed heavily on the

hordes of insects associated with these fields. Today, deer, rabbits, turkey poults, bobwhite chicks, and other wildlife use similar areas in spring and summer.

Forb fields can be created by disking the soil in late summer or fall and allowing nature to take its course over the next growing season. The biggest problem in some situations will be unwanted grasses that can choke out the more desirable forbs. Fertilization and liming may be needed to create a good forb patch, but avoid heavy application of nitrogen. Applying fertilizer low in nitrogen or without nitrogen that contains phosphorus and potassium is recommended. This same type of fertilizer (0-13-13) can be applied to road sides, small openings, etc., for the same effect. Fall wildlife openings planted in small grains for deer and turkeys (wheat, rye, oats, etc.) often will contain many forb species the following spring and summer if the sowing rate of the small grains is reduced at planting time (say 1.5 bushels per acre rather than 3).

These naturally occurring, high-quality plants that are critical to many wildlife species in the spring are replaced or followed by others in the summer and fall. Additionally, many of these forbs have a growth form that provides nutrients during critical winter periods. In managing forbs, remember not to apply too much nitrogen because it can lead to domination by unwanted grass species. ♣



Photo courtesy of Rhett Johnson

*Forb fields provide critical habitat for turkey, especially young poults.*



Photo courtesy of Rhett Johnson

*Thinning and prescribed burning in pine stands are excellent management practices for promoting increased forb production.*

**Please**  
**visit the**  
*“new and improved”*  
**AFC**  
**Web Site**  
**at:**  
**www.**  
**forestry.**  
**state.al.us**

## A Simple Retreat *(Continued from page 10)*

Tour stops included pine and hardwood management, a southern pine beetle demonstration, and recreation opportunities.

Tony is an active member of the Macon County Forestry Planning Committee. He received his Tree Farm Certification in 1985 and became certified as a TREASURE Forest landowner

in 1999. He is also a member of the newly established Outreach Advisory Council for minority landowners created by State Forester Timothy C. Boyce.

Whether they go to there to camp, hunt, fish, walk in the hardwood bottoms, or just to relax, this TREASURE Forest remains what it has always been for Tony and his family. . . a simple retreat. 🌲

## Preventing Timber Theft *(Continued from page 15)*

- Logs removed from the site that are not delivered promptly.
- Complaints or tips from landowners, neighbors, other loggers, foresters, consultants.

### •Use a written timber sale contract.

Entering a timber sale without a written contract to protect your interests is asking for trouble. A good timber sale contract that demonstrates good wood flow accountability measures and outlines termination date, prices, volumes, products, markets, sales area, cleanup, and penalties for contract violations will reduce temptation, thus eliminating most potential theft opportunities.

Harvesting and marketing timber products can be very complex. If you don't know the timber business, you better know the people with whom you are dealing. Most producers are hard working, honest business people. Treat the sale as a business deal; they will understand

and not be offended. Keeping the sale on a business level will act as a deterrent and aid in resolving any disputes. Good background checks and the bidding process are two key elements to protect the landowner.

An article in *Forest Landowner* magazine, written by Tom Kazee of Woodland Security, Inc., quotes three numbers that, based on my experience, all landowners should remember. The three important numbers are: 80-19-1.

*Eighty percent of us are honest and would not cheat another person even if given a golden opportunity. Nineteen percent are opportunistic and if an unhindered opportunity presents itself will succumb to temptation and take full advantage. Less than one percent are determined crooks that look for every opportunity to steal or cheat. Keeping the timber sale on a business level will deter most opportunities for theft.* 🌲

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## Work Hard, Work Smart . . .

*(Continued from page 7)*

parts enter your skin. Do not twist when tugging and avoid squeezing the tick's abdomen. Wash the site with soap and water. Save the tick in a sealed jar of alcohol for future reference.

### ANIMAL BITES or SCRATCHES

Immediately wash a wound or scratch caused by an animal with soap and water, and visit a physician as quickly as possible. If the bite is from a wild animal, try to capture the animal so it may be tested for rabies. The animal's brain must be intact to conduct rabies testing, so avoid injury to the animal's head and neck area.

**BE WEATHER SMART** Know the proper responses to weather emergencies.

- Tornadoes – A tornado may spring up quickly any time of year. Seek the lowest level by lying flat in the nearest ditch with your hands shielding your head.
- Lightning – Avoid a lightning strike by taking precautions before the storm reaches you. Most lightning strikes hit people from one to seven miles in front of clouds and rain. Remember, five seconds between the flash and the thunder means the storm is only one mile away. 1) Seek shelter in a low area under a thick growth of small trees, never under a single tree. In an open area, seek a low spot, such as a ravine or a ditch. 2) Stay away from tractors, wire fences or rails. 3) Drop to your knees and bend forward putting your hands on your knees. DO NOT place hands on the ground or lie flat on the ground - wet ground can carry electricity. 4) If you are in a group of people in an open area, spread out, keeping people several yards apart.

Experts in wilderness travel, camping and out door safety agree that "common sense" is always your best companion when you work outdoors, but it does not hurt to be prepared. You can work hard and be able to work another day if you will attend to the basic essentials. 🌲

### Resources

[www.destinationoutdoors.com](http://www.destinationoutdoors.com)  
[www.enviroderm.com](http://www.enviroderm.com)  
[www.georgiamagazine.com](http://www.georgiamagazine.com)

# HIDDEN



# TREASURES

## All In the “TREASURE Forest” Family

By *Charles Wise*

*County Manager, Alabama Forestry Commission, Randolph County*

The term TREASURE Forest means many things to many people. To Roy and Mary Reeves' family of Roanoke, Alabama, it means family involvement. Mr. and Mrs. Reeves purchased their first tract of forestland in 1968 and immediately began actively managing the 226 acres. Timber stand improvement cuts were made and 43 acres were planted in pines on cleared land that the local Boy Scout troop was allowed to use for camping. This tract has been called the “Boy Scout Land” since then and in fact, the Boy Scouts still use the property for gatherings and camping.

The Reeves purchased more land on two other occasions bringing the total area to 336 acres. Hurricane Opal took its toll on 90 acres in 1995, but the area was harvested and re-planted. Now family and friends enjoy hunting abundant deer, turkey, squirrel, and rabbit on the property.

Aesthetics is important to the Reeves family as well. One of the most strikingly beautiful places on the property is an area along a stream with large boulders jutting out of the ground as if guarding the stream and hardwoods. A firebreak along the ridge between the natural pines and the hardwoods provides easy access to this area.

It is evident that the Reeves practiced multiple-use forestry before it became popular to do so. Mr. Reeves first became aware of the TREASURE Forest program in 1996 through Alabama Forestry

Commission personnel servicing a cost-share referral. His interest in the program was sparked and he was invited to sit on the County Forestry Planning Committee. The property was certified as a TREASURE Forest in 1997. The Reeves' property has hosted two forestry tours and 6th grade classes from Handley Middle School have also visited for the last three

Forest in 1999. Recreation in the form of hunting and camping for friends and family is the secondary objective and one of the old farm buildings now serves as a bunkhouse for hunters and campers. An extensive system of fire lanes and access roads doubles as linear wildlife openings in many areas. Little Wehadkee Creek and Wehadkee Creek form the

east and south property boundaries respectively. The most notable natural feature is a large outcrop of rock. This nearly flat area of rock is one of the recognized habitats for Little Amphianthus or “pool sprite,” an endangered species of small flowering herb.

The Walker property has undergone several changes in the last ten years. A three-acre lake was built and stocked with bream and bass. The Walkers

then built a house overlooking the lake. Pine trees replaced cattle on about 25 acres. The south 40 acres is mainly upland hardwoods through which Meachum Creek flows. Overlooking the creek, the lake, and the home place from the south is a hill with a marvelous stand of northern red oak and scarlet oak that virtually glows red in the fall. A one-day “Becoming an Outdoor Woman” program was hosted at the Walker's place last spring. Their property was certified as a TREASURE Forest in 2001.

As the Reeves family continues to grow, they are definitely making the TREASURE Forest program a “family tradition.”



*Carrying on the Reeves TREASURE Forest family tradition (l to r): Benji Whaley, Tia W. Whaley, Seth Walker, Casey Prince, Katina R. Walker, Kem Walker, Roy Reeves, Mary Reeves, Sabra R. Burns, Steve Burns, Leigh Burns, and Luke Burns.*

years. The county FFA forestry judging competition was held here in 2000. Mr. Reeves served two terms as Chairman of the planning committee and soon afterward was instrumental in starting a TREASURE Forest county chapter, of which he is the Chapter President. But the story does not end there.

Mr. and Mrs. Reeves' two daughters, Sabra and Katina, each have families and TREASURE Forests of their own. Sabra and Steve Burns own 145 acres of forestland that they acquired in 1990. Katina and Kem Walker have 80 acres.

The Burns property, a mix of planted pines, bottomland hardwoods, and natural pines, was certified as a TREASURE



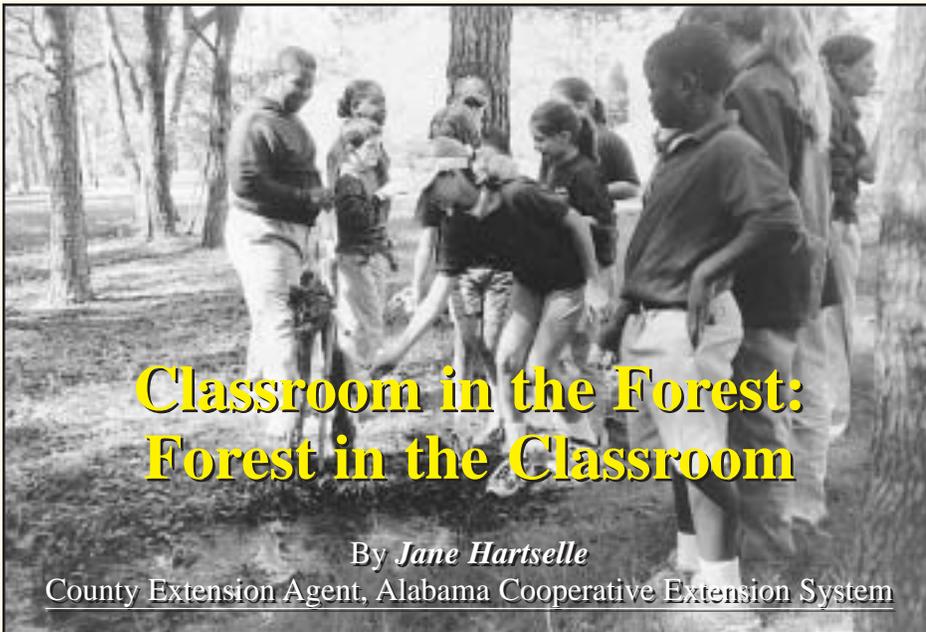
# New TREASURE Forest Certifications

Congratulations to the 72 landowners who were awarded TREASURE Forest certification at the first two meetings for the year 2002 of the TREASURE Forest sub-committee. With these landowners, 26,526 acres were added to the TREASURE Forest program in Alabama. At these same meetings, 106 landowners received re-certification.

Currently, Alabama has 1,742 TREASURE Forests with 1,799,981 acres of forestland being managed under the guidelines of the TREASURE Forest program.

Landowner	Location of Property	Region
James & Wanda Altiere	Butler	SE
B A Farms	St. Clair	NE
James Barron	Crenshaw	SE
James Blackmon	Jackson	NE
Boggy Branch, LLC	Baldwin	SW
Rob & Casey Brannon	Mobile	SW
Carl Bullion	Limestone	NW
Oscar Burdette	Chambers	NE
M. Darren & Cynthia M. Cannon	Dale	SE
William Clark	Clay	NE
John & Edna Courson	Covington	SE
Brant & Susie Craig	Dekalb	NE
Norma C. Davis	Mobile	SW
Sue Fincher	Randolph	NE
Don Fussell	Randolph	NE
Jack & Al Goolsby	Covington	SE
Kirk Hall	Cherokee	NE
David L. & Mark E. Harrison	Sumter	SW
John & Jane Henderson	Marengo	SW
Nancy Henry	Dallas	SW
Mark Hitt	Etowah	NE
John & Gene Crane Hixon, Jr.	Lowndes	SE
Jerry & Joanne Holdsambeck	Bibb	NW
James Warren Holloway	Geneva	SE
Dr. Tommy R. Horne	Barbour	SE
Emory Hubbard & family	Bibb	NW
Bruce & Michelle Johnson	Coosa	NE
Clarice & Mike Kendrick	Shelby	NW
Hazel Kendrick	Shelby	NW
John R. Lewis, Jr.	Limestone	NW
Lost Arrowhead Farm	Coosa	NE
Herb & Kathy McCrimmon	Calhoun	NE
John & Sheila McDaniel	Houston	SE
Mark & Peggy McElreath	Covington	SE
Patricia Mize	St. Clair	NE
Robert Molette III	Dallas, Barbour	SW

Landowner	Location of Property	Region
Tim & Maressa Moore	Randolph	NE
Estate of Mary Morris	Mobile, Clarke	SW
Ox Level Timberlands LLC	Bullock	SE
Dale Patterson	St. Clair	NE
Randy Pearson	Bibb	NW
Hal C. Peek	Cherokee	NE
Rob Perry	Randolph	NE
Richard & Peggy Phelps	Montgomery	SE
Terry & Tammy Pickard	Conecuh, Covington	SW
Pine Ridge	Barbour	SE
Ed & Beth Price	Houston	SE
Tommy Rainwater	Autauga	SW
Richard, Stacie, & Ralph Reddish	Lee	SE
Sarah Weekly Reed	Sumter, Choctaw	SW
Margaret Clayton Russell	Barbour	SE
Dr. J. Thomas Sanders	Crenshaw	SE
William T. Slagle	Chambers	NE
Micky & Lolita Smith	Sumter	SW
Robert & Ellen Smith	Coosa	NE
Tommy & Bettye Stephens	Sumter	SW
Young Stevenson	Bullock	SE
Dr. Larry Stutts	Colbert	NW
Edmund Thompson	Crenshaw	SE
Dan Thrower	Cleburne	NE
Charlie & Barbara Tickle	Shelby	NW
Tiger Hollow Farms LLC	Montgomery	SE
Jim & Doris Tucker	Bibb	NW
Tukabatchee Area Boy Scouts	Autauga	SW
Dr. P. H. Waddy	Lee	SE
Ernest & Martha Wallace	Bibb	NW
Cody & Shelia Ward	Covington	SE
Foster & Jeanette Weed	Covington	SE
Ozell & Billie Weeks	Marion	NW
Buddy & Beth Wilkes	Covington	SE
Joe Max & Kathryn Worthy	Coosa	NE
Bartley & Kim Wyers	Walker	NW



## Classroom in the Forest: Forest in the Classroom

By Jane Hartselle

County Extension Agent, Alabama Cooperative Extension System

**C**lassroom in the Forest: Forest in the Classroom is “budding” all across Alabama. This program enables school children in Mobile, Montgomery, Tallapoosa, and Washington Counties to get a close-up look at private forestland and private forest landowners, as well as the many TREASURES that the forest holds.

The Alabama TREASURE Forest Association and Jane Hartselle, Mobile County Extension Agent with the Alabama Cooperative Extension System have teamed up with other agencies and community leaders to bring *Classroom in the Forest: Forest in the Classroom* to fifth grade school children across the state.

*Classroom in the Forest: Forest in the Classroom* was created to communicate the role private lands and private landowners play in environmentally and economically benefiting all of the people in Alabama.

The emphasis of the Alabama TREASURE Forest Association is to promote wise management of all of our forest resources and to educate the general public on the importance of private land ownership and private landowners. *Classroom in the Forest: Forest in the Classroom* serves as a vehicle to expose school age children to the TREASURE Forest philosophy of managing our forests for a variety of resources in a way that sustains productivity for future generations.

*Classroom in the Forest: Forest in the Classroom* has two goals. The first goal

is to educate fifth grade students and their teachers about multiple-use management of our forest resources and how important private landowners are in the management of these valuable resources. The second goal is to involve private landowners and stakeholders in the education of our youth, other landowners, and the general public about the importance of our natural resources.

Volunteer Resource Development Team members are recruited and then invited to participate in three two-hour development sessions. Each team member receives a Teaching Resource Kit complete with lesson plans, activity sheets, and most importantly, an opportunity to share their knowledge and enthusiasm with fifth-grade students in the county.

The Volunteer Resource Development Teams are comprised of three people: 1) Resource Provider, 2) Stakeholder, and 3) Private Land Owner. Each team member brings the message of the TREASURE Forest program along with their own perspective, to encourage a feeling of pride and respect for the forestland in Alabama and a true sense of appreciation for the private landowner. The dynamics of this group fills a much-needed role in the education of our youth, as well as for the adults participating in this project. Often we take for granted the many benefits we receive each day from the forest.

Since November of 1999, the *Classroom in the Forest: Forest in the Classroom* program has continued to grow. In Mobile County alone, volunteers

have taken the *Forest in the Classroom* to 49 different elementary schools. This means that over 4,000 children in Mobile County were introduced to the many life-long lessons of the forest.

These same Volunteer Resource Development Teams took 32 different schools to the *Classroom in the Forest*. To ensure the success of each of the forest field trips, twelve private landowners opened their TREASURE Forests to over 900 children in Mobile County. With these tours, the idea of “Neighbors Helping Neighbors” was never more clearly demonstrated. School children were treated to hayrides, nature walks, and learning activities, as well as an “old fashion” lunch on the grounds. Not only the children, but also the adults had a great time.

Thanks to the many volunteers and “Team TREASURE Forest” of the Alabama TREASURE Forest Association, the success of *Classroom in the Forest: Forest in the Classroom* is spreading across the state. Montgomery County is in its second year of the program where it has already had impact on many school children. Also in Tallapoosa and Washington Counties, the first year of the project is off and running. Stay tuned for an update of the progress in these counties.

We would love to bring this important message to your county. For more information and an opportunity to get involved, please contact one of the following:

- Jane Hartselle,  
Alabama Cooperative Extension,  
Tele: (251) 574-8445
- Alabama TREASURE Forest Association,  
Tele: (251) 442-2425
- Private Forest Management Team,  
School of Forestry and Wildlife Sciences, Auburn University  
Tele: (334) 844-1043

Or your county’s:

- Alabama Forestry Commission office,
  - Cooperative Extension office,
  - Soil Conservation District office
- or
- Alabama Department of Conservation and Natural Resources. ☎



Photo 1: Horizontal shaft machine.

## Mulching Machines for Pre-commercial Thinning and Fuel Reduction

By *Jason D. Thompson*

Southern Research Station, USDA Forest Service

**W**ildfires in the western United States and Florida over the last several years have highlighted the vulnerability of dense overstocked stands to fire. As a result, landowners, land managers, and researchers alike are interested in methods to reduce hazardous fuels in forest stands. Mechanical reduction of under-story and mid-story fuels by mulching or chipping is an option for reducing stand density to allow the reintroduction of prescribed fire into forest stands.

Mulching machines have long been used to maintain utility right-of-ways. You have probably seen mulching machines working along the interstate highways in Alabama in recent years. These machines, which employ a horizontal-shaft head with teeth or knives [see Photo 1], differ from traditional right-of-way machines that employ a vertical-shaft head with blades (similar

to a “bush hog”)[see Photo 2]. Mulching heads can be fitted to a variety of carriers including rubber-tired, tracked, and

skid-steer machines. The head can be directly or boom mounted to the carrier. Horizontal-shaft mulching heads can



Photo 2: Vertical shaft machine.

fully chip or mulch the entire bole, limbs, and vegetation to a uniform size and can incorporate the chips into the soil if desired [see Photo 3 and Photo 4].

As the technology incorporated into these machines has evolved, so have their potential applications. Most of these applications are common forest management prescriptions. Reducing understory and midstory fuels by mulching is one application that has already been mentioned. Other management objectives can also be met by mulching machines. For example, pre-commercial thinning of overstocked naturally regenerated stands. A demonstration held in Auburn last October involved a third row removal (thinning-to-waste) in an eleven-year-old pine plantation. This is not the first option a land owner or manager wants to consider with a stand of this age and size (9-inch average dbh), but it may be a viable option in closely planted plantations in times of low market demand for pulpwood. This demonstration also showed the potential of these machines in larger material. With mulching machines now on the market rated at 500 horsepower, even 9+ inch hardwoods offer little resistance. In the wildland-urban interface fire and smoke are not feasible. Mulching machines can establish and maintain firebreaks in these areas. Other applications include modifying stands to meet wildlife management objectives,



Photo 3: Horizontal shaft machine in operation.

controlling southern pine beetle outbreaks, site preparation, and clearing overgrown agricultural land.

The Forest Operations Research Unit of the USDA Forest Service, located in Auburn, Alabama has evaluated various different makes and models of mulching machines over the last several years. Productivity and cost studies were performed while the machines worked in several of the applications listed above. Machine productivity is affected by

spacing of residuals, operating pattern, prescription, terrain, operator experience and motivation, and machine type.

Productivity ranged from 0.2 acre per hour up to 1.6 acre per hour. Machine cost was calculated using the machine rate method. A cost per acre was calculated using the operating and owning cost calculated (including 30% for overhead and profit) and the measured productivity. A cost per acre for a typical midsize machine (200 horsepower) with productivity of 1.0 acre per hour was calculated to be \$180 per acre. This cost assumes the machine is performing an understory/midstory fuel reduction. A fifth row removal could conceivably be done for \$36 per acre.

In conclusion, mulching machines offer a variety of options to forest landowners and managers in meeting their management objectives. Potential applications include pre-commercial thinning, establishing firebreaks and wildlife plots, and controlling southern pine beetle outbreaks. Prescription costs for these machines are relatively high and a quote might easily double the figures presented in the previous paragraph. The short duration of most jobs, lack of experience with these kinds of treatments, and opportunity costs are all factors that affect prescription costs. As demand for these services increases, so should the number of contractors available to perform the work. ♣



Photo 4: Mulched strip.

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# **THREATENED & ENDANGERED** SPECIES

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# GULF STURGEON

By *Kevin Lee McIver*

Public Affairs Specialist, Daphne Ecological Services Field Office, U.S. Fish and Wildlife Service

**D**uring the late 19th and early 20th Centuries, many species of fish and wildlife were driven into extinction or near extinction by mankind's affect on natural habitats and exploitation of the world's natural resources.

The Gulf sturgeon is just one of the many species that has stood on the brink of extinction.

"The major decline in the Gulf sturgeon population can be attributed to over fishing," said Frank Parauka, USFWS Fishery Biologist with the Panama City Ecological Services Field Office. "The high value of caviar, and to a lesser

extent the flesh, made the Gulf sturgeon very desirable."

According to the Mississippi Department of Wildlife, Fisheries & Parks, 24,000 pounds of Gulf sturgeon were taken from the Pascagoula River in 1902. A predecessor of the modern-day U.S. Fish and Wildlife Service, U.S. Commission of Fish and Fisheries records indicate that 100,000 pounds of sturgeon were harvested from Alabama waters in 1903.

Perhaps the greatest recorded loss from over fishing of the Gulf sturgeon occurred in Florida. From 1886-1901 the harvest steadily increased annually from

1,500 to 84,000 pounds. In 1902 harvests of over 259,000 pounds were recorded. This record year perhaps also signaled the start of the decline in Gulf sturgeon population as harvest records steadily declined thereafter down to 3,500 pounds by 1945.

A subspecies of the Atlantic sturgeon, the ancestry of the Gulf sturgeon dates back 200 million years. Even though the Gulf sturgeon can obtain lengths of over nine feet and are capable of living up to 40 years, these fish do not reach sexual maturity until they are 7-21 years old and weigh from 50-150 pounds. These fish are long lived and very slow in growing.

**Visit the "new and improved"  
AFC Web Site:  
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Photo by Dennis Holt

*The Gulf sturgeon is one of 27 species of sturgeon.*



Photo by Dennis Holt

*Representatives of the Alabama Department of Conservation and Natural Resources and the U.S. Fish and Wildlife Service hold a Gulf sturgeon.*

An anadromous fish, the Gulf sturgeon migrates from marine environments to freshwater to breed. It is estimated that a female sturgeon produces 400,000 eggs per spawning season; yet spawning may only occur every other year.

Young sturgeon remain in freshwater for up to six years before they migrate to saltwater. Many reports indicate that adult and sub-adult Gulf sturgeon fast and lose weight, some up to 30 percent of their total body weight, while in fresh water, and then compensate the loss during winter feeding in the estuarine and marine habitat.

The inability to reach their historical spawning grounds is just one of the current threats to the species. Although Federal law banned commercial harvesting of the sturgeon in 1991, major threats to the Gulf sturgeon still exist including habitat loss, barriers to spawning grounds, and poor water quality.

Even though the Gulf sturgeon have few natural enemies, human activities can threaten the species. These include new dam construction, poorly planned navigation projects including dredging activities, alteration of habitat, dredged material disposal on habitats essential for sturgeon (feeding areas, spawning and resting areas, etc.), as well as groundwater

withdrawal which reduces or eliminates important cool water habitat needed during the summer, contaminant introductions, and water quality degradation.

Another major threat to Gulf sturgeon survival is urbanization. Shoreline development on estuaries, bays and streams contribute to loss of habitat. Runoff from dirt roads and poor agriculture practices have contributed to heavy sediment loads in the river systems which inhibits spawning.

Aquaculture, the rearing of non-native sturgeon for meat and caviar is yet another threat to survival. The potential of captive fish to escape from a facility and hybridize with native fish increases the habitat competition and the possibility of disease transfer.

All species of fish and wildlife need to be preserved for a multitude of reasons. The fossil ancestry of the Gulf sturgeon dates back more than 200 million years but this lineage is not the only characteristic of the fish that makes it worth recovering.

The fish is unique in that it occupies the most southern range of all the 27 sub-species of sturgeon. The fish is an excellent indicator of the health of the aquatic system. It is found in a wide diversity of habitats and has persisted in

less than optimal conditions. However, if the decline continues, we have to be very concerned that the habitat has experienced additional degradation.

There is also another reason to preserve the species that may one day help many people world-wide.

According to Fishery experts, once recovered, the species has a lot of economic potential if managed prudently. The sturgeon, like sharks, have no history of cancers and may provide some important medical information to combat this disease.

Although historical accounts vary as to the size and weight of fish that have been taken, the largest documented Gulf sturgeon was caught at the mouth of the Mississippi River in 1936 and weighed 503 pounds.

Federally listed as a threatened species in 1991 under the Endangered Species Act, it is hoped that the Gulf sturgeon can one day recover. To aide in this recovery, many public and private organizations are cooperatively working to achieve this goal.

“We are looking at a living dinosaur, a 250-million-year old animal that probably has not changed much throughout its existence,” Parauka said. “Once this fish is extirpated it is gone forever.” ♣

By **Bob Keefe**, Retired Forester, Cullman

*(Editor's Note: Part Two of a Two-Part Story)*

**A**labama is a state that is blessed with a wealth of biological diversity. Our beautiful state ranks fourth in the nation in species biodiversity, even though we rank only 29th in size. Even more significantly, we rank second in the nation behind Florida in the total number of species per acre. It is probably no surprise that most of this richness in biodiversity is found along the 47,000 linear miles of perennial and intermittent streams that make up most of our state's vast network of waterways.

Part One of this article presented the riparian forest concept as an important way to help sustain our biological inheritance by providing a commitment to stewardship that goes well beyond the limited objectives of the present Best Management Practices (BMPs) Streamside Management Zones (SMZs). It demonstrated that managing streamside areas as riparian forests provide many benefits to the landowner and his neighbors. These benefits include cleaner water through the increased soil and vegetative filtration of runoff water for sediment and other pollutants, a greater diversity of terrestrial and aquatic wildlife habitat, and better stream bank and water channel stabilization, especially on intermittent streams where timber cover is not required by BMPs. Riparian forests also provide many aesthetic or visual quality benefits, and very importantly, create manageable units for high value timber production.

## PLANT STRUCTURE AND BIODIVERSITY

In managing riparian forests, understanding "plant structure" can be a very helpful tool. It is no surprise that in the

natural world, plants provide the physical structure within which most other organisms live. In general, species richness or biodiversity, is correlated with the structure of the plant community: the greater the diversity of plant structure, the greater the diversity of other life. Thus a major key to establishing and maintaining a healthy and species rich riparian forest is through providing a diversity of plant "structure." Small, well-structured riparian forests strategically located throughout the landscape can really do a lot to help the forest community promote its forest sustainability goals by being the repository for a wealth of biological diversity. It is this biological richness — the summation of all the varied of species of plants, animals, microbes, etc. that co-exist in a given location — that ultimately will measure how successful we have been in passing this great resource along to future generations of Alabamians.

Plant structure can be described in several different ways, but the most common way to assess plant structure is by its vertical and horizontal components. Simply put, vertical structure focuses on the complexity of the forest from ground level up to the top of the tallest trees and is often described by the canopy layers present. The more complex the vertical structure, the more canopy layers can be seen. A positive correlation exists between foliage vertical diversity and bird species richness in many plant communities on all continents. Horizontal diversity on the other hand, focuses on the diversity of plant life and conditions that promote a diversity of life as one moves across the forest floor such as the number and distribution of various species, size classes, age classes, number of snags, fallen timber, litter, etc.

## MANAGING FOR PLANT STRUCTURE

Managing for a well-structured riparian forest may be the single most important thing a landowner can do to promote biological diversity and sustainability on his land. The primary silvicultural system that can be used to accomplish this is uneven-aged forest management, particularly using single tree or group selection methods. This is a complex process that requires a good understanding of plant succession and the effect of light and shade in creating and maintaining the desired forest structure. This method can also yield high quality forest products, both pine and hardwood, if not allowed to degenerate into a high grading operation.

An uneven-aged forest is defined as a forest in which at least three distinct age classes, or generations, of trees coexist. This usually involves mature trees in the upper canopy, large saplings in the mid-story, and seedlings or small saplings near the forest floor. If managed correctly, this can create the desired vertical and horizontal structure. This method of forest management basically involves the creation of small openings in the forest canopy through the harvesting of mature trees. This enables other under-story trees to respond to the increased sunlight in order to grow into the upper canopy. Light and shade must be delicately balanced to keep a viable under-story layer in reserve, to protect stand structure, and to prevent log quality degrades through epicormic branching, thus maintaining the biological and economic potential of the stand. There is a significant body of research available today on how to accomplish this for both hardwood and pine management. Professional forestry assistance is desirable when attempting

to manage the complexities of uneven-aged management.

## INVASIVE EXOTIC SPECIES

One of the greatest threats to the riparian forest in Alabama is the invasion of exotic species. Probably the worst problem species today in riparian areas are Chinese and Japanese Privet. Some authorities call privet the second most invasive species in the Southeast after kudzu; others claim it will be worse. A cursory examination of stream zones across Alabama will show that privet has become so well established that it is replacing many native species through its intense competition. It grows so thick and lush, it prevents the regeneration of many native forest species and makes the riparian area almost inaccessible. Over time many riparian areas may be converted to pure privet thickets. Although it does have some wildlife value in its numerous edible berries and thick cover, its damaging effect on biodiversity and the economic potential of the stand makes it extremely undesirable. It is certainly not as pleasing aesthetically to most people as the naturally diverse riparian forest.

The only sure control for privet so far is chemical herbicides. Herbicides are effective when used properly and can restore the natural balance of the riparian forest. However care must be taken when using them in riparian areas not to spray directly into water even if the herbicides are labeled for wetlands use. Herbicides that are effective against privet include foliar sprays of Accord, Roundup, and Arsenal AC and bark applications of Garlon 4. Prescribed burning may be effective as a temporary above-ground control of privet when repeated regularly, but will not usually eradicate it.

Other invasive exotic species existing in Alabama and creating serious problems are cogongrass, popcorn tree, Japanese honeysuckle, kudzu and others. As with privet, the main problem is that they compete with native species for soil nutrients, water, and sunlight and eventually take over a site and eliminate or severely reduce populations of the native species and thus reduce biodiversity. This is extremely critical when they invade riparian forests, the foundation of

biodiversity in Alabama. For control measures against invasive exotic species to be most effective, early detection is required so that controls can be implemented before exotics become too well established. Otherwise eradication can be extremely difficult and expensive.

## RE-ESTABLISHING DISTURBED RIPARIAN AREAS

Most of our stream corridors in Alabama have been disturbed by past or present land use patterns such as agriculture, forestry, grazing, strip mining, flood control measures, urbanization, and development. In some of these areas riparian forests can be reestablished or improved with cost share programs presently available to landowners. For example, programs exist that provide incentives for livestock owners to fence livestock away from streams. This allows riparian areas to develop by protecting them from overgrazing. It also protects the integrity of the stream banks, a major source of sedimentation, while reducing animal fecal bacteria and other pollutants from entering our streams. Cost share programs available through the Natural Resource Conservation Service (NRCS) and local county Soil and Water Conservation Districts can help with the cost of fencing off creeks and providing alternate water sources for livestock such as spring development, ponds and troughs as well as providing stream crossings.

The Continuous Conservation Reserve Program (Continuous CRP) is a USDA program that assists landowners in establishing riparian forests along creeks adjacent to pastures and crop land. Cost sharing through Continuous CRP covers tree planting for selected species of hardwoods and pines to establish a diverse riparian forest buffer, limited herbicide work for site preparation, and fencing out livestock along an average buffer width of 180 feet either side of the creek. In some cases, cost share programs will help establish up to a 300-foot riparian forest buffer on larger flood plains. This land is retired from agricultural production for a contracted period of time, usually 10 or 15 years, and annual payments are made to the landowner on land that is established in trees. This program is managed by the

Farm Service agency (FSA) with technical assistance from NRCS.

## THE RIPARIAN FOREST, A COMMITMENT TO STEWARDSHIP

Maintaining our precious legacy of biodiversity and ensuring that it is not lost to our children and grandchildren by shortsightedness should be a stewardship goal of all Alabama landowners. One major way that this can be accomplished is through proper management and protection of the riparian areas of our state, where much of this biodiversity exists. These areas can be managed to protect these valuable assets without compromising the economic goals of the forest landowner and can even enhance them if done properly.

Riparian forest management is a complex issue, but there is technical expertise available to help the interested landowner through forestry consultants as well as agencies such as the NRCS, Soil and Water Conservation Districts, the Alabama Forestry Commission, and County Extension Service offices. ♣

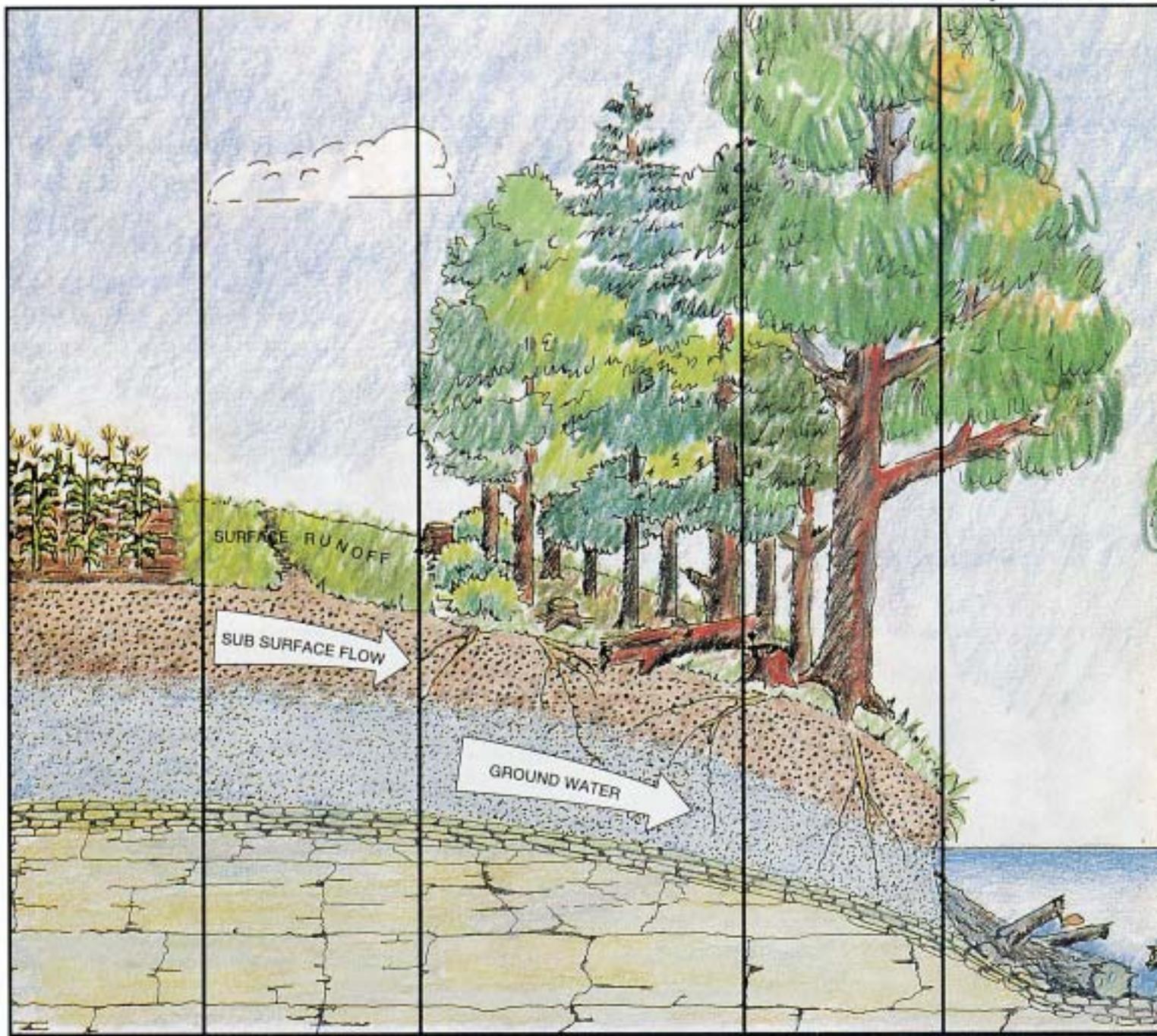
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*Bob Keefe is a retired registered forester from International Paper Corporation who is presently working for the Soil and Water Conservation District on the Upper Black Warrior River Basin 319 Project.*

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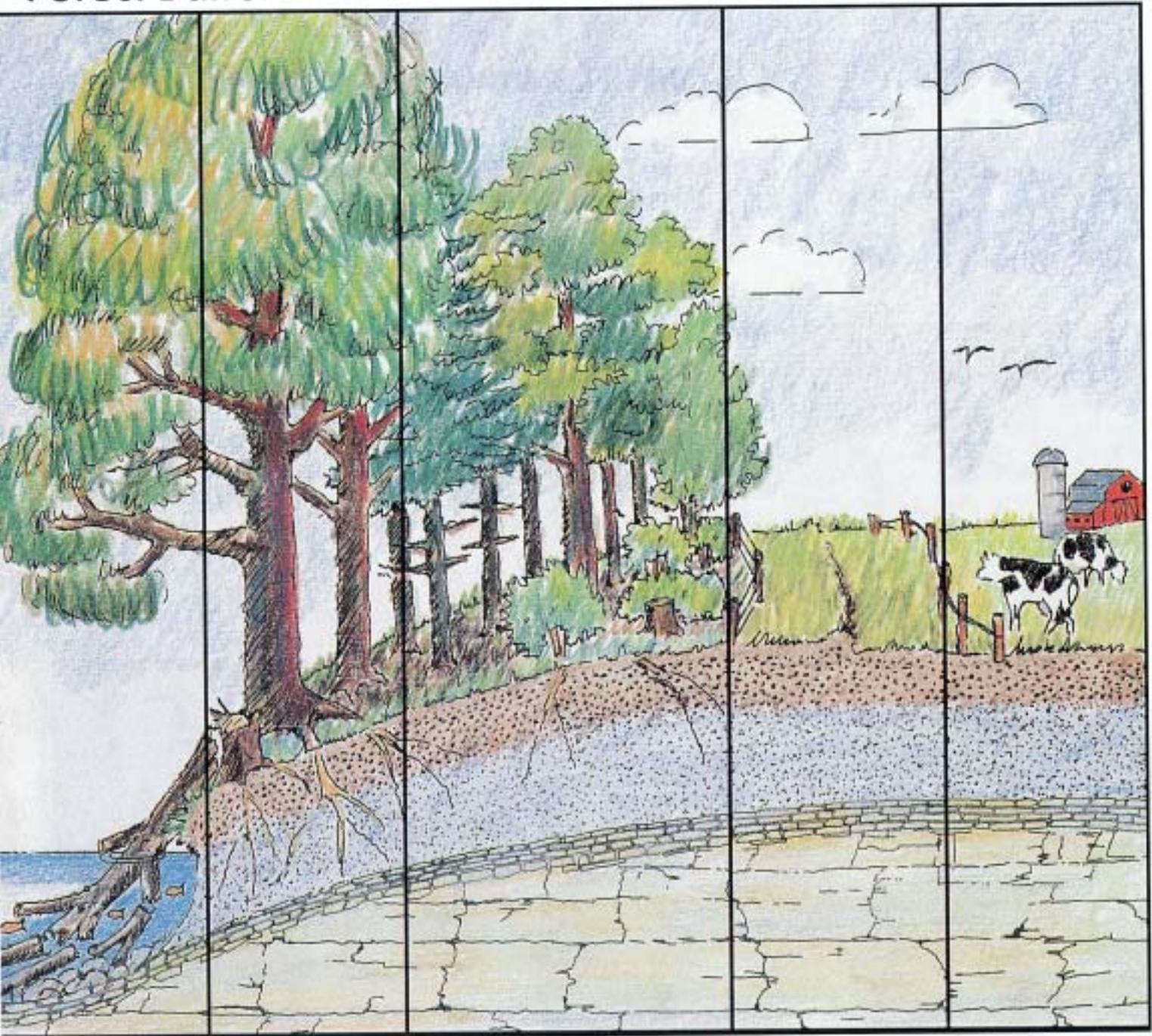
# The Riparian



AGRICULTURAL	ZONE 3	ZONE 2	ZONE 1	STREAMBED
Cropland	Grass	Managed Forest	Undisturbed Forest	
Farmers employ Agricultural Best Management Practices.	Grass helps to evenly spread surface waterflow and absorb nutrients.	Trees can be harvested. Organic soils remove nitrogen.	Tree roots help stabilize streambank.	Woody debris slows velocity of water and improves aquatic habitat.

A riparian buffer is an area of trees, shrubs and herbaceous vegetation located adjacent to and upslope from a lake, stream or other body of water. This buffer serves several important functions. Simply put, it maintains stream system integrity, protects water quality and improves the habitat of plants and animals on land and in the water.

# Forest Buffer



Above diagram courtesy of the U.S. Forest Service, Northeastern Area State & Private Forestry.

STREAMBED	ZONE 1	ZONE 2	ZONE 3	URBAN/SUBURBAN
Woody debris slows velocity of water and improves aquatic habitat.	Undisturbed Forest  Trees shade stream and keep water cool.	Managed Forest  Soil particles trap phosphorus, and trees use excess nutrients for growth.	Grass  Porous grass-covered land increases infiltration and water storage. Controls concentrated runoff.	Developed  People practice conservation measures.

The width of a riparian forest buffer is site specific and dependent on the landowner's objectives. The three-zone buffer concept provides a framework for the establishment and maintenance of a long-term riparian buffer.

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# “FOREST FAMILIES GROWING IN ALABAMA”



## 19th Annual Alabama Landowner and TREASURE Forest Conference

OCTOBER 17-18, 2002  
PERDIDO BEACH RESORT, ORANGE BEACH, ALABAMA

Registration fee of \$65 includes  
tour, banquet, indoor sessions, and luncheon.

*Thursday, October 17, 2002*

12 noon - TREASURE Forest Tour

*Hosted by the Tim String family, 2001 Helene Mosley Winners, Southwest Region*

*Buses will load and depart from the Perdido Beach Resort*

6:45 p.m. - Awards Banquet followed by a dessert social

*Friday, October 18, 2002*

8:00-11:15 a.m- Indoor Sessions - *Participants will be able  
to choose from the following sessions:*

- Habitat Stewardship Training Program *Lynn Garris, DCNR*
- Integrated Resource Wildlife Management *Claude Jenkins, Wildlife Biologist*
- Wildflower Identification and Management *Dr. Darryl Searcy*
- TREASURE Forest Certification Process *Panel Discussion*
  - Exotic Invasive Plant Species *Fred Nations*

11:45 a.m. - Alabama TREASURE Forest Association Luncheon

**Forest Master Credits may be earned by attending the tour and indoor sessions.**

## **SILENT AUCTION**

Don't miss the 6th Annual Silent Auction sponsored by the Alabama TREASURED Forest Association. Bids will be received on items until lunch on Friday and items awarded to the highest bidders that afternoon.

# 19TH ANNUAL ALABAMA LANDOWNER AND TREASURE FOREST CONFERENCE

October 17-18, 2002 Perdido Beach Resort

Orange Beach, Alabama

REGISTRATION FORM

Name(s) of Attendee(s):

#1 \_\_\_\_\_  
#2 \_\_\_\_\_  
#3 \_\_\_\_\_  
#4 \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Will attend Tour on Thurs.:

Yes  No

Yes  No

Yes  No

Yes  No

Bus transportation will be provided for the tour.

No personal vehicles can be driven.

CATEGORY(IES) OF ATTENDEES (Check one category only)

Total # attending tour \_\_\_\_\_

#1	#2	#3	#4	
___	___	___	___	TREASURE Forest Landowner
___	___	___	___	Government Agency/TREASURE Forest Landowner
___	___	___	___	Landowner
___	___	___	___	Government Agency/Landowner
___	___	___	___	Government Agency
___	___	___	___	Private Forest Industry/Consultant
___	___	___	___	Other

I am attending the conference and enclosing: \$65 pre-registration x \_\_\_\_\_ attendee(s) = \$ \_\_\_\_\_

NOTE: Registration includes tour and banquet on Thursday; indoor sessions and luncheon on Friday.

## CONFERENCE INFORMATION

- **Thursday, Oct. 17:** Registration will begin at 10 a.m. in the lobby of the Perdido Beach Resort.
- **Thursday, Oct. 17:** Buses will depart for the tour at 12 noon from the parking lot of the Perdido Beach Resort. Lunch is on your own, or you may bring a sack lunch to eat on the bus. ***Please dress appropriately and wear comfortable shoes.*** Buses will return to the hotel in time to change clothes for the banquet that evening.
- **Thursday, Oct. 17:** Banquet begins at 6:45 p.m, followed by a dessert social to honor award winners.
- **Friday, Oct. 18:** Indoor sessions begin at 8 a.m.; a separate agenda will list meeting rooms and session topics.
- **Friday, Oct. 18:** Luncheon begins at 11:45 a.m.
- **Exhibit space is available.** Contact Ruth Ball at 251.432.6888 or Danny Dunwell at 251.610.8808.
- **Pre-registration fee** for the conference per person if postmarked **by October 4 is \$65.**
- **Registration fee** for the conference **after October 4 is \$75.**
- **No refunds will be made after October 11.**
- **Mail upper portion of form and fee payable to Alabama Forestry Conference to:**

Fran Whitaker, Alabama Forestry Association, 555 Alabama St., Montgomery, AL 36104

Phone: 334.265.8733 Fax: 334.262.1258

## HOTEL INFORMATION

- The Perdido Beach Resort is offering a special room rate of \$99.
- *Please specify that you are attending the TREASURE Forest Conference when you make reservations.*
- Blocks of rooms will be held until the cutoff date of September 16.

Perdido Beach Resort

27200 Perdido Beach Blvd, Orange Beach, AL 36561

1-800-634-8001

# Durand Oak

*Quercus durandii* Buckl.

By *Coleen Vansant*

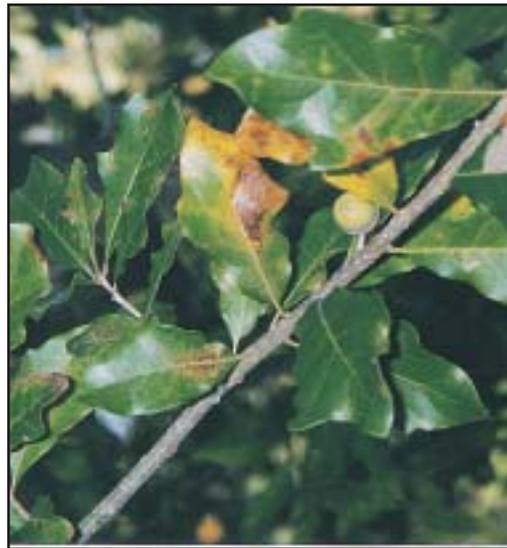
Information Manager, Alabama Forestry Commission, Cullman

**D**urand oak, also called Bluff oak, Durand white oak, White oak and Basket oak, is a white oak that superficially resembles certain of the water oaks. The tree was named for Philadelphia pharmacist and botanist Elias Magloire Durand (1794-1873.)

The trees, which are often 60 to 90 feet in height and 2 to 3 feet in diameter, have comparatively small branches which are, lower horizontal, upper ascending, forming a dense round-topped head. The wood is very heavy, hard, strong and brittle.

The bark and wood resemble white and post oak, and the acorns water oak. The bark is thin, light gray with thin scales loosely appressed.

Leaves are obovate or elliptic, thin, margin entire or slightly 3-lobed. Three irregular forms may occur on different branches of the same tree at the same time. Some may resemble water oak, while others are dark green lustrous above, and light and smooth beneath; still others may be 6 to 7 inches long, 3



to 3-1/2 inches wide, light green above and white and very hairy below.

The tree flowers in the spring with red, male catkins 1 to 2 inches long. The acorns mature in a single season and are

round, pale chestnut brown, 1/2 to 2/3 inches long, barely enclosed in the thin shallow saucer-like cup with appressed scales that are slightly thickened on the back.

This tree grows on rich limestone prairie soils and other soils rich in lime. It is restricted to the Deep South and is nowhere abundant. In Alabama, it is comparatively rare across the state. It has been reported to grow in Morgan, Blount, Jefferson, Tuscaloosa, Bibb, Sumter, Greene, Hale, Perry, Dallas, Wilcox, Choctaw, and Clarke Counties.

Because it is so rare it has contributed little to the supply of white oak lumber. Historical uses include pins in cotton gins, spools, baskets, and wagon hubs. Today it is used for pulp.

The Alabama Champion Durand oak is located in Dallas County. It is 76 feet tall, has a circumference of 150 inches, and a crown spread of 75 feet. Its total point value is 244.75. The National Champion is located in Omaha, Georgia. It is 95 feet tall with a circumference of 189 inches and a crown spread of 106 feet, earning 311 total points. 🌳



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